

Lower Columbia Basin

Description

The lower Columbia is a relatively small basin draining the westernmost floodplains and tidal reaches of the Columbia River. Skipanon, Young's, and Clatskanie rivers flow into the lower Columbia from the Coast Range. About 43% of the basin is publicly owned.

This OWEB basin also includes the Sandy River watershed, which flows from the west side of Mt. Hood to join the Columbia near the community of Troutdale. The Sandy basin is heavily forested, and provides significant drinking water, recreational and fish and wildlife benefits in close proximity to Oregon's largest metropolitan area. Portions of the Sandy are protected under the state and federal wild and scenic rivers programs.

The lower Columbia's tidal wetlands serve as the gateway between the entire Columbia system and the Pacific and are extremely important for anadromous fish, especially young out-migrating salmon seeking food and cover prior to entering the ocean. Nearly two-thirds of the shallow marshes and side channels along the lower Columbia have been converted to other uses, primarily farm and pastureland but also, more recently, hybrid cottonwood plantations. Restoring tidal wetlands is considered critical to ecosystem health on the lower Columbia.

The Oregon Biodiversity Project identified Columbia River bottomlands as a conservation opportunity area, noting that since there is already significant public ownership in these areas, it is possible to restore and manage critical wetlands on a larger scale than in some other parts of the state. The Lower Columbia River Estuary Management Plan seeks to restore 3000 acres of tidal wetlands along the lower 46 miles of the river in order to return tidal wetlands to 50% of their 1948 level. The priority attributes identified for this basin are consistent with these recommendations.

Priority Ecological Systems

Coastal western hemlock forest
Depressional wetland shrublands
Freshwater aquatic beds
Freshwater emergent marsh
Freshwater mudflats⁶
Herbaceous balds and bluffs
Intertidal freshwater wetlands
Intertidal mudflat
Lowland riparian woodland and shrubland

⁶ Freshwater and intertidal mudflats and tidal salt marsh in the lower Columbia Basin are for the most part already in public ownership as state-owned submerged and submersible lands. From an ecological standpoint, they are clearly a high priority – significantly reduced from historic levels and providing important fish and wildlife habitat. Proposals to acquire lands and restore them to these system types should be considered a high priority by OWEB in this basin.

Oak woodland⁷
 Sitka spruce forest
 Subalpine or montane wet meadow
 Tidal salt marsh
 Western Oregon upland prairie and oak savanna
 Western Oregon wet prairie

Rare or At-Risk Plant Communities

Bigleaf maple - red alder / sword fern - fringe cup
 Black cottonwood - red alder / salmonberry
 Black cottonwood / creek dogwood / touch - me - not
 Bog blueberry / slough sedge shrub swamp
 Bog blueberry / sphagnum shrub swamp
 Bog blueberry / tufted hairgrass - slough sedge shrub swamp
 Brodiaea prairie
 California oatgrass valley grassland
 Columbia sedge marsh
 Common downingia vernal pool
 Creeping lovegrass - lowland cudweed vernal pool
 Creeping spikerush - one-sided sedge marsh
 Creeping spikerush - water purslane marsh
 Dense sedge - tufted hairgrass prairie
 Douglas spiraea - bog blueberry / slough sedge / sphagnum
 Douglas spiraea / sphagnum fen
 Fragrant popcorn-flower vernal pool
 Geyer willow - Piper willow
 Lobb buttercup aquatic bed
 Martindale lomatium rock garden
 Nootka rose / tufted hairgrass brush prairie
 Nootka rose / water parsley shrub swamp
 One-sided sedge - meadow barley prairie
 Oregon ash / Dewey sedge - stinging nettle
 Oregon ash / spreading rush
 Pacific willow / stinging nettle
 Roemer fescue valley prairie
 Sitka spruce / creek dogwood - Hooker willow tideland
 Tufted hairgrass - California oatgrass valley prairie
 Water purslane - waterpepper marsh
 Western hemlock / western Labrador tea / slough sedge - skunk cabbage swamp
 Western Labrador tea / darlingtonia / sphagnum bog
 Western Labrador tea / slough sedge / sphagnum bog
 White oak / Idaho fescue savanna
 White oak / snowberry / sword fern

⁷ Prairie and oak systems are extremely rare in the Lower Columbia Basin; any occurrences would easily meet the criteria for high priority systems.

DRAFT - Lower Columbia Basin – Priority Species

<i>Fish</i>	<i>Birds</i>	<i>Mammals</i>	<i>Amphibians and Reptiles</i>	<i>Invertebrates</i>	<i>Plants</i>
Chinook Salmon (Fall Run) Chum salmon Coastal Cutthroat Trout Coho Salmon Pacific Lamprey Steelhead Trout	Bald Eagle (nest sites only) Band-Tailed Pigeon Bullock’s Oriole Dunlin Great-blue Heron (nest/roost sites only) Olive-Sided Flycatcher Pacific Slope Flycatcher Peregrine Falcon (nest sites only) Purple Finch Sandhill Crane Trumpeter Swan Willow Flycatcher	Columbian White-Tailed Deer Townsend’s Bib-Eared Bat	Cope’s Giant Salamander Red-legged Frog	<i>Anodonta californiensis</i> (California Floater) <i>Deroceras hesperium</i> (Evening Fieldslug)	<i>Howellia aquatilis</i> (Howellia)

Lower Columbia Basin Priority Ecological Systems								
Ecological System Name	Existing (Ha)	Historic (Ha)	Protected (Ha)	Private (Ha)	% Loss (+/- =gain/loss)	% Public	Index	Comments
Freshwater Emergent Marsh	12.42	4023.54		12.42	-99.7%	0.0%	-99.67	Wetland / Riparian priority not well mapped
Western Oregon Wet Prairie		160.74			-99.4%	0.0%	-99.38	
Oak Woodland		116.10			-99.1%	0.0%	-99.15	
Sitka Spruce Forest	579.33	9714.15	31.14	367.20	-94.0%	36.6%	-88.66	
Lowland Riparian Woodland and Shrubland	279.18	815.94	10.89	274.77	-65.7%	1.6%	-61.82	Wetland / Riparian priority not well mapped
Coastal Western Hemlock Forest	416.43	716.58	26.37	311.22	-41.8%	25.2%	-35.51	
Subalpine or Montane Wet Meadow	14.13	34.29	6.84	6.39	-57.1%	51.2%	-11.92	Wetland / Riparian priority not well mapped
Intertidal Mudflat	1.26				126.0%	55.8%	126.00	Wetland / Riparian priority not well mapped
Western Oregon Upland Prairie and Oak Savanna	278.64		102.60	108.81	27864.0%	60.7%	27900.69	A mapping problem - State and Ecoregion priority
Depressional Wetland Shrublands								Wetland / Riparian priority unmapped
Intertidal Freshwater Wetlands								Wetland / Riparian priority unmapped
Herbaceous Balds And Bluffs								Unmapped type, rare system and communities
Freshwater Mudflats								Wetland / Riparian priority unmapped
Tidal Salt Marsh								Wetland / Riparian priority unmapped
Freshwater Aquatic Beds								Wetland / Riparian priority unmapped

Lower Columbia Basin Priority Species

Common Name	Scientific Name	Lists on Which Species Appears	Rationale for Identifying as Priority	Comments
BIRDS				
Bald Eagle (nest sites only)		TNC ecoregional target, Listed species	Listed Species: good basin to emphasize because of extensive foraging and nesting habitat and existing populations	
Band-tailed Pigeon		BCR priority, GAP priority, TNC ecoregional target, PIF focal species	State Sensitive; good basin to emphasize private land forest habitat and highly sig declining trend; opportunity for unique site protection (mineral sites)	
Bullock's Oriole		BCR priority, TNC ecoregional target	Highly significant declining trends at regional and w. Oregon levels (2-3%/year); good basin to emphasize because of opportunities to address fragmented riparian gallery forest (especially cottonwood) along Columbia and lower tributaries	
Dunlin		Regional shorebird priority, TNC ecoregional target	Good basin to emphasize because of large estuary mudflats and flooded fields for non-breeding season foraging and roosting	
Great-blue Heron (nest/roost sites only)		BCR priority, TNC ecoregional target	Good basin to emphasize habitat and declining regional populations; sensitive to expanding disturbances (human and eagle)	
Olive-sided Flycatcher		BCR priority, TNC ecoregional target, PIF focal species	State Sensitive; significantly declining population trends at regional and w. OR and WA levels (4-5%/year); good basin to emphasize its forest edge and opening habitat on private forest land	
Pacific-slope Flycatcher		GAP priority, TNC ecoregional target, PIF focal species	Significantly declining population trends at regional, w. OR and WA and w. OR levels (2-3%/year); good basin for emphasis because of private land riparian and forest habitat opportunities, especially mature alder forest	
Peregrine Falcon (nest sites only)		BCR priority, GAP priority, TNC ecoregional target, Listed species	State Listed species: good basin to emphasize because of extensive shoreline foraging and potential cliff nesting habitat in gorge off public lands	

Ruffed Grouse		BCR priority	Good basin to emphasize because of low elevation private forest land habitat and dense riparian alder forest; plus highly sig declining trend	
Sandhill Crane		TNC ecoregional target	State Sensitive; good opportunities for private land conservation near protected areas like Sauvie Island and Ridgefield NWR	
Trumpeter Swan		BCR priority, Regional waterfowl/waterbird priority, TNC ecoregional priority	Good basin to emphasize for small wintering populations; use of multiple wetland habitat types and adjacent upland fields good for acquisition	
Willow Flycatcher		TNC ecoregional target, PIF focal species	State Sensitive; highly significant declining trends at regional and w. Oregon levels (4-5%/year); good basin to emphasis because of private forest land opportunities and riparian shrub habitat	
MAMMALS				
Columbian white-tailed deer		GAP priority, TNC ecoregional target; Federally listed	Endangered; restricted range and declining habitat (riparian/oak woodlands)	
Townsend's big-eared bat		TNC ecoregional target	Habitat (caves, mines) is rare	
HERPS				
Cope's giant salamander		TNC ecoregional target	Best basin to capture this declining species	
Red-legged frog		GAP priority, TNC ecoregional target	Declining habitat (forested wetlands)	
FISH				
Chinook Salmon (fall run)		State Sensitive Species - Critical	Declining; poor tributary spawning habitat	acquisition of tributary habitat pertinent
Coastal Cutthroat Trout		State Sensitive Species - Critical	Declining	including lower Willamette & Clackamas; acquisition of tributary habitat pertinent

Steelhead Trout		State Sensitive Species - Critical	Declining	impacted by hatchery stocks; acquisition of tributary habitat pertinent
Coho Salmon		State listed	Declining	acquisition of tributary habitat pertinent
Chum Salmon		Federally listed	Declining; poor spawning conditions	acquisition of tributary habitat pertinent
Pacific Lamprey		TNC ecoregional target	declining	
INVERTEBRATES				
California floater	<i>Anodonta californiensis</i>	TNC ecoregional target	Declining with local extirpations	
evening fieldslug	<i>Deroceras hesperium</i>	TNC ecoregional target	Best basin for capturing this rare mollusk	
PLANTS				
Howellia	<i>Howellia aquatilis</i>		Federal, State Listed, G1G2 taxa	No sites currently known from basin

Lower Columbia Basin Priority Rare Communities

Scientific name	Common name
<i>Lomatium martindalei</i> rock garden	Martindale lomatium rock garden
<i>Picea sitchensis</i> / <i>Cornus sericea</i> - <i>Salix hookeriana</i>	Sitka spruce / creek dogwood - Hooker willow tideland
<i>Vaccinium uliginosum</i> / <i>Carex obnupta</i>	bog blueberry / slough sedge shrub swamp
<i>Vaccinium uliginosum</i> / <i>Deschampsia cespitosa</i> - <i>Carex obnupta</i>	bog blueberry / tufted hairgrass - slough sedge shrub swamp
<i>Tsuga heterophylla</i> / <i>Ledum glandulosum</i> / <i>Carex obnupta</i> - <i>Lysichiton americanum</i>	western hemlock / western Labrador tea / slough sedge - skunk cabbage swamp
<i>Ledum glandulosum</i> / <i>Carex obnupta</i> / <i>Sphagnum</i>	western Labrador tea / slough sedge / sphagnum bog
<i>Ledum glandulosum</i> / <i>Darlingtonia californica</i> / <i>Sphagnum</i>	western Labrador tea / darlingtonia / sphagnum bog
<i>Spiraea douglasii</i> - <i>Vaccinium uliginosum</i> / <i>Carex obnupta</i> / <i>Sphagnum</i>	Douglas spiraea - bog blueberry / slough sedge / sphagnum
<i>Eleocharis acicularis</i> - <i>Ludwigia palustris</i>	creeping spikerush - water purslane marsh
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i> / <i>Cornus sericea</i> / <i>Impatiens capensis</i>	black cottonwood / creek dogwood / touch - me - not
<i>Quercus garryana</i> / <i>Festuca idahoensis</i> var. <i>romeri</i>	white oak / Idaho fescue savanna
<i>Brodiaea</i> sp. prairie	Brodiaea prairie
<i>Carex densa</i> - <i>Deschampsia cespitosa</i>	Dense sedge - tufted hairgrass prairie
<i>Carex unilateralis</i> - <i>Hordeum brachyantherum</i>	one-sided sedge - meadow barley prairie
<i>Danthonia californica</i> valley grassland	California oatgrass valley grassland
<i>Deschampsia cespitosa</i> - <i>Danthonia californica</i> valley prairie	tufted hairgrass - California oatgrass valley prairie
<i>Fraxinus latifolia</i> / <i>Juncus patens</i>	Oregon ash / spreading rush
<i>Ludwigia palustris</i> - <i>Polygonum hydropiperoides</i>	water purslane - waterpepper marsh
<i>Vaccinium uliginosum</i> / <i>Sphagnum subsecundum</i>	bog blueberry / sphagnum shrub swamp
<i>Acer macrophyllum</i> - <i>Alnus rubra</i> / <i>Polystichum munitum</i>	bigleaf maple - red alder / sword fern - fringeceup
<i>Carex aperta</i>	Columbia sedge marsh
<i>Downingia elegans</i> vernal pool	common downingia vernal pool
<i>Eleocharis palustris</i> - <i>Carex unilateralis</i>	creeping spikerush - one-sided sedge marsh
<i>Eragrostis hypnoides</i> - <i>Gnaphalium palustre</i> vernal pool	creeping lovegrass - lowland cudweed vernal pool
<i>Festuca roemeri</i> - <i>Sidalcea virgata</i>	Roemer fescue valley prairie
<i>Fraxinus latifolia</i> / <i>Carex deweyana</i> - <i>Urtica dioica</i> ssp. <i>gracilis</i>	Oregon ash / Dewey sedge - stinging nettle
<i>Plagiobothrys figuratus</i> vernal pool	fragrant popcorn-flower vernal pool
<i>Populus balsamifera</i> ssp. <i>trichocarpa</i> - <i>Alnus rubra</i> / <i>Rubus spectabilis</i>	black cottonwood - red alder / salmonberry
<i>Quercus garryana</i> / <i>Symphoricarpos albus</i> / <i>Polystichum munitum</i>	white oak / snowberry / sword fern
<i>Rosa nutkana</i> / <i>Deschampsia cespitosa</i>	Nootka rose / tufted hairgrass brush prairie
<i>Rosa nutkana</i> / <i>Oenanthe sarmentosa</i>	Nootka rose / water parsley shrub swamp
<i>Salix geyeriana</i> - <i>Salix hookeriana</i>	Geyer willow - Piper willow
<i>Salix lucida</i> ssp. <i>lasiandra</i> / <i>Urtica dioica</i> ssp. <i>gracilis</i>	Pacific willow / stinging nettle
<i>Spiraea douglasii</i> / <i>Sphagnum</i>	Douglas spiraea / sphagnum fen
<i>Ranunculus lobbii</i>	Lobb buttercup aquatic bed